



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/003,012

11/02/2001

Benjamin N. Eldridge

20206-15

3257

7590

02/16/2005

Woodard, Emhardt, Naughton, Moriarty and McNett
Bank One Center/Tower
Suite 3700
111 Monument Circle
Indianapolis, IN 46204-5137

EXAMINER

NGUYEN, VINH P

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 02/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------|-----------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/003,012 | ELDRIDGE ET AL. | |
| | Examiner | Art Unit | |
| | VINH P. NGUYEN | 2829 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-10, 12-16, 27-31 and 35-46 is/are pending in the application.
- 4a) Of the above claim(s) 42-44 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 5-10 and 12-16 is/are allowed.
- 6) ☒ Claim(s) 27, 28, 31, 35, 36, 39, 40, 45 and 46 is/are rejected.
- 7) ☒ Claim(s) 28-30, 37-38, 41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2829

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 27-28,31,35-36,39-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Carlin et al (Pat # 5,124,639).

As to claims 27 and 35, Carlin et al disclose an apparatus having a probe card with a plurality of probes for making contact with an electronic device (wafer under test) and means (55,54,48) for reducing a temperature gradient between the device side of the probe card and the second side of the probe card. It is noted that the probe card has a device side (bottom surface) faces the wafer under test and a second side (top surface) opposite the device side.

As to claims 28 and 35, it appears that the probe card has a device side (bottom surface) faces the wafer under test and a second side (top surface) opposite the device side.

As to claim 31, Carlin et al disclose thermal couple (54) for sensing the temperature of the probe card ring (40)

As to claim 36, it appears that the reducing temperature means is disposed on at least one of the device side and the second side.

As to claim 39, the temperature gradient reducing means (55,54,48) is configured to affect a temperature on the second side of the probe card.

As to claim 40, it appears that the temperature gradient is induced when the electronic device (wafer under test) is tested.

As to claims 45 and 46, it appears that the temperature gradient reducing means (55,54,48) has a thermal control element (55).

3. Since generic claims 1 is allowable, non elected claims 6-9,13-16 are hereby rejoined and allowed along with claims 1-3,5,10,12

4. Claims 1-3,5-10 and 12-16 are allowable since the prior art does not disclose an energy transmissive element for transmitting energy to selectively deflect a portion of the probe card and for controlling the geometric planarity of the probe card and a temperature sensor located near the energy transmissive element for monitoring temperature corresponding to deflection of the probe card.

5. Claims 29-30,37-38 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


The prior art does fails to disclose energy transmissive elements for affecting a temperature on the device side and second side of the probe card and a temperature sensor for monitoring the temperatures on the first device side and a second side of the probe card.

Art Unit: 2829

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH P. NGUYEN whose telephone number is 571-272-1964. The examiner can normally be reached on 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


VINH P NGUYEN
Primary Examiner
Art Unit 2829
02/10/05